

XXXIII. *An Account of the Eclipse predicted by Thales; by the Rev. William Stukeley, M. D.*

Read May 3,
1753.

WHILST I lived in Lincolnshire, I was visited by Mr. Edmund Weaver, who was a very uncommon genius; particularly he had made himself a great master of astronomy, and was scarcely to be accounted the second in the kingdom. He composed complete tables of the celestial motions, which he was very much solicited to publish; but the world waited for Dr. Halley's.

These tables were shewn to Dr. Halley: we may have a notion of their value from what the doctor said thereupon, that he suspected, Mr. Weaver had seen his tables. He was well known to, and much esteemed, by Mr. Martin Folkes. He taught himself writing, arithmetic, algebra, some sublime parts of the mathematics, the whole art and science of astronomy; as his annual publications sufficiently evince. He was an instance of great merit in obscurity: he died in a little house of his own, soon after I removed to London, Dec. 27, 1748. and was buried at Cathorp near Grantham.

Thus much I thought proper to commemorate of this worthy person. An intimacy grew up between him and myself during that twenty years I lived in the country, nor was it unfruitful; for we often agreeably entertained ourselves in calculations of astronomy, with a view to antient history. One of them I here produce before the Society, done many
years

years ago ; but, upon hearing that read on the same subject from Mr. Costard, it put me in mind of it, and I hope it will be an acceptable illustration and confirmation of that famous piece of history, the eclipse predicted by Thales the Milesian; which happened in the 603 year before the Christian æra.

I shall recite the history of this matter, as concisely as I can, from the historians and writers, tho' they all mistake the year. But this shews the admirable use to be made of astronomy in ascertaining matters of history.

The great king of Babylon, Nebuchadnezzar, was now busy in executing the vengeance, which God had made him the instrument of, upon the nation of the Jews, for their incorrigible wickedness and folly. Their king Jehoiachin was carried away captive to Babylon, and kept in prison 37 years together, till he died.

At this time there was a sharp war between the Medes and Lydians, of which Herodotus give us an account. Halyattes, father of the famous Cræsus, was now king of the Lydians.

After the Medes had conquer'd all the upper or northern part of Asia, from the old possessors the Scythians, they again extended their borders to the river Halys in Lesser Asia, the boundary between Cappadocia and Armenia, or between the Lydians and Medes. It was not long before there happened a war between these nations, which continued for five years together, with various success.

In the sixth year they engaged each other, with the utmost of their strength ; intending to make that battle decisive of the quarrel, that was between them:

but, in the midst of the engagement, whilst the fortune of the day seem'd to hang in an equal balance, there happened a total eclipse of the sun, which overspread both armies with a horrible darkness; inso-much that, being affrighted at such a critical judgment of heaven (as they thought it), both sides put up their swords; and they agreed to refer the controversy between them to two arbitrators. Halyattes, king of Lydia, chose Siennesis, king of Cilicia; Cyaxares, the Median monarch, chose Nebuchadnezzar, now busy in leading the Jews into captivity.

Nebuchadnezzar is by Herodotus called Libynetus. It seems to me, that the letter N, in the beginning of the word, has, in the antient copies of Herodotus, been turned into Λ; and then the words, in two different dialects, are not very different.

These great arbitrators compromised the matter between the contending parties, by making a match between the two royal families; and so restor'd peace and friendship. Astyages, the son of Cyaxares, king of Media, married Ariena, daughter of Halyattes, king of Lydia, of whom, a year after, was born Cyaxares, whom the prophet Daniel calls Darius the Mede. And in that last mention'd year, king Cyaxares gave his daughter Mandane in marriage to Cambyfes king of Persia; of whom, the next year, was born the great Cyrus, the founder of the Persian monarchy, whom the prophet Isaiah foretold by name, that he should restore the polity of the Jews, the city of Jerusalem, and the temple, and return the sacred vessels of gold and silver, which Nebuchadnezzar had carried away, and put into his heathen temple at Babylon.

Thus

Thus ended this famous quarrel between the Medes and Lydians, thro' the timely event of a total solar eclipse, made still the more eminent, that it was calculated, and foretold to the Ionians by Thales of Miletus, at that time in the 37 year of his age. He was born of Phœnician parents; and there, no doubt, learned his knowledge in astronomy. He was the first, who brought this science into Greece, and that 300 years after the pretended Chiron of the Argonauts.

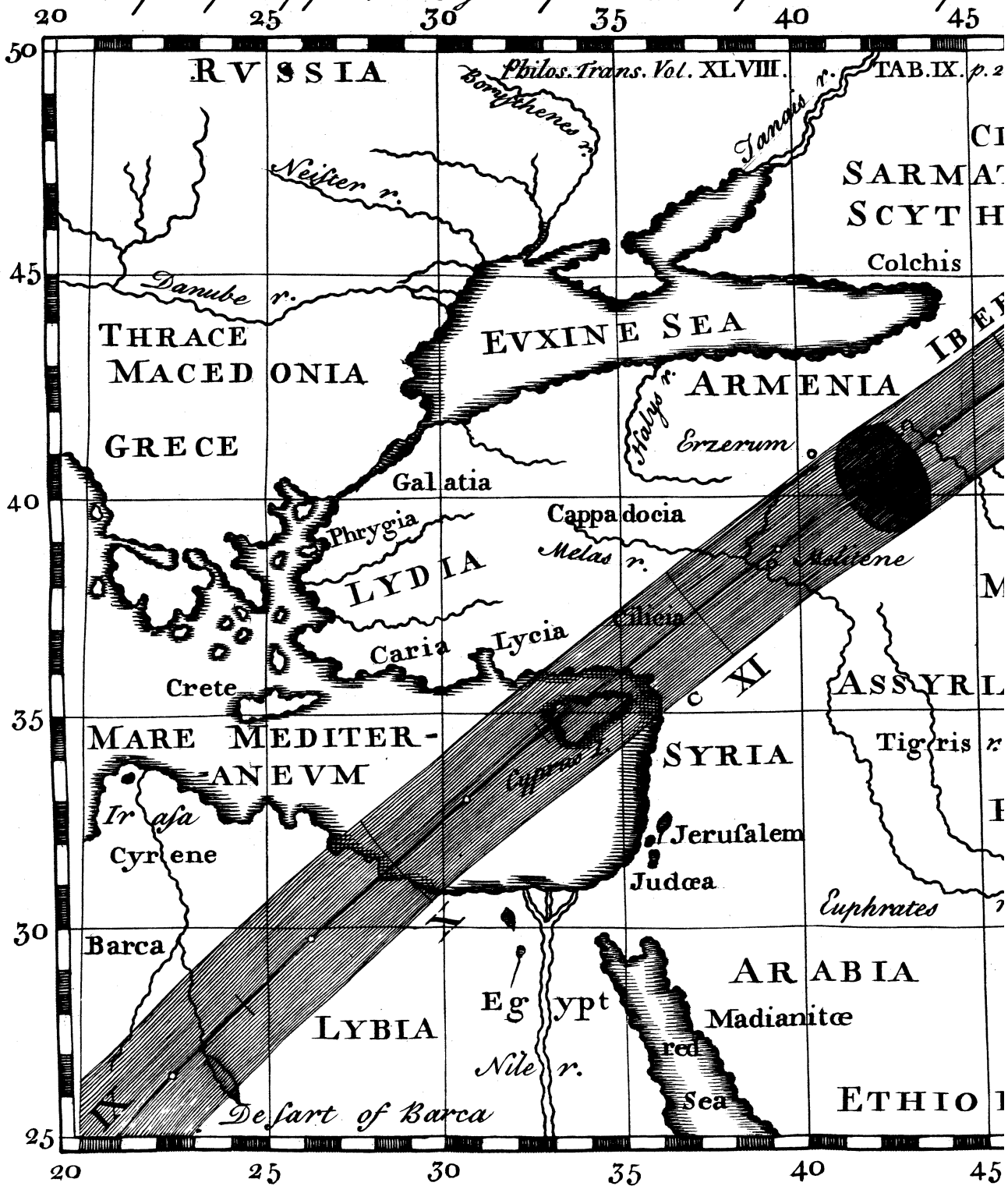
It is an invincible argument, that he learned his art; for a whole life is not sufficient, so to observe the motions of sun and moon, as to be able to calculate an eclipse.

This is the first eclipse, which we have recorded in so circumstantial a manner. Notwithstanding all this, it is strange to see, how the learned have erred about the true year of this memorable affair.

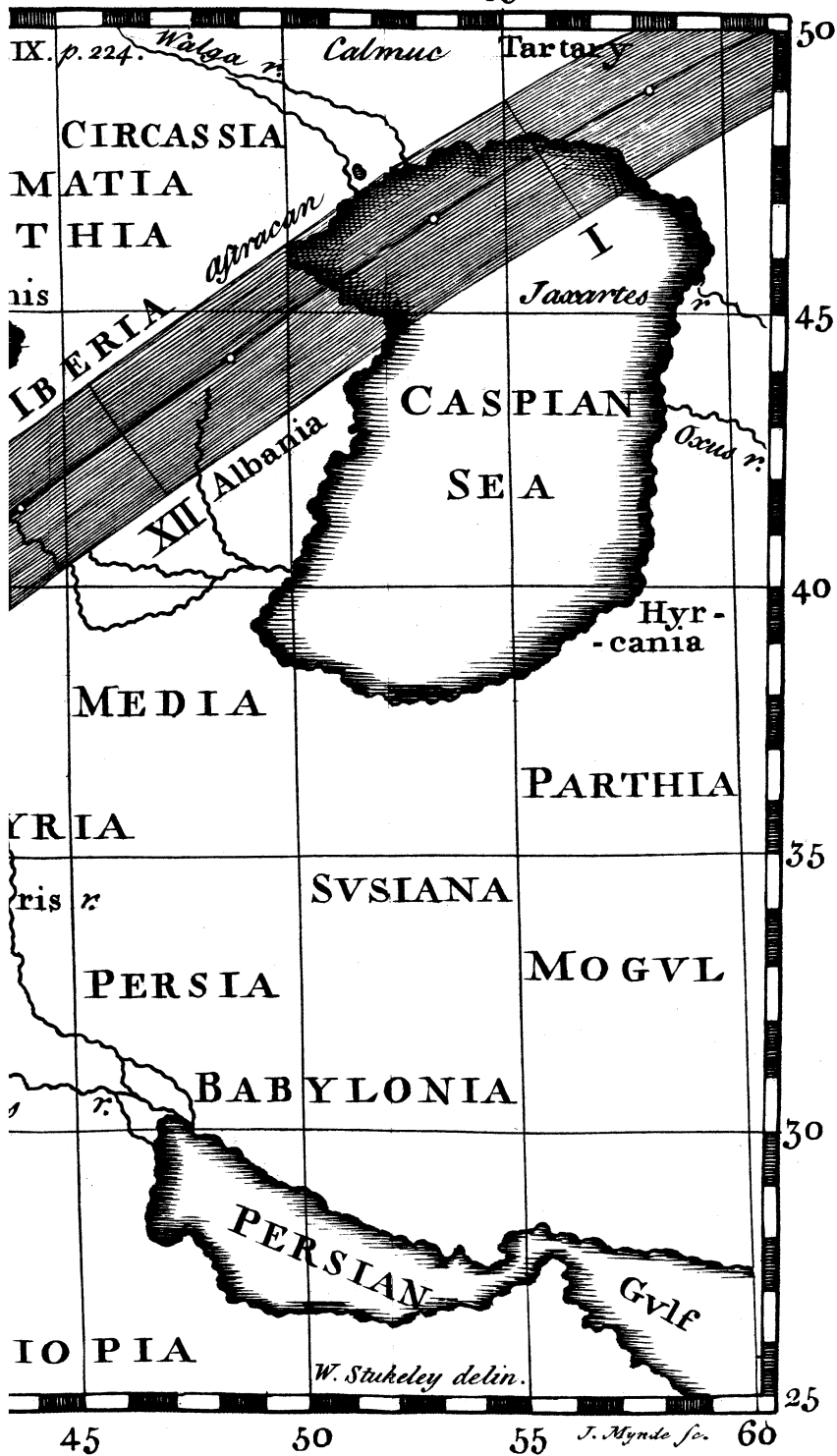
Pliny begins the mistake, telling us, that it was the fourth year of the XLVIII Olympiad; whereas it was the fourth year of the XLIII. It is not unlikely, the numeral letter V is crept into the original. Clemens Alexandrinus makes it about the fiftieth Olympiad. Dr. Prideaux makes it 5 years too late; Archbishop Usher 2 years. Sir Isaac Newton gives us the true month and day, but assigns the 585 year, as Ricciolus.

I have designed the map here exhibited, from my friend Weaver's calculation (Fig. IX.), which will present us with a just notion of the whole affair. It is a projection of the moon's shade, as it passed over the earth's surface from 20 to 60 degrees of longitude east from London; and from 25 to 50 degrees of north

A Scheme of the passage of the moons shade, in the total solar eclipse, on Friday may 18th the 603.^d year before CHRIST. it put an end to y^e wa



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north latitude, with the hours, half-hours, and quarters of time, where vertical. This was on the 18 of May in the proleptic Julian style: in the year of the Julian period 4111, the 603 year before the vulgar æra of Christ.

The eclipse was total 4 minutes and a half, where the battle was fought. The shade enters our map, in the desert of Barca in Africa, soon after 9 o' clock in the morning. It traverses the mediterranean sea, and isle of Cyprus; enters Asia Minor at Cilicia, a little before 11; about half an hour after, it passes the city now called Erzerum; near which I suppose the battle was fought, as being at the boundary between the two kingdoms. It is between the river Halys, and the river Melas, on which was the antient city Melitene. The river Melas runs eastward into the Euphrates. At half an hour after 12, the shade enter'd upon the Caspian sea, and at 1 upon the Kal-muc Tartary.

We see here an authentic *parapegma* in antient history, deduced from astronomy: and we see a remarkable instance, brought about by Divine Providence, of a most furious war, terminated by the intervention of an eclipse. But eclipses, say we, are natural and necessary phænomena, consequent to the established motions of the celestial bodies. True; Providence order'd them at the beginning, as well as comets, and earthquakes, and the like portentous appearances, as antiquity rightly denominated them, and regarded them: but Providence did not thereby restrain its own power and authority, to render them at the same time of moral use. Providence can so over-rule the actions of us men, as to bring them to coincide with these fore-ordain'd and neces-

fary motions, so as to prove himself the GOVERNOR both of the natural and moral world ; tho' improv'd philosophy has given us a juster notion of these matters than the antients had. I wish our religious sentiments may advance, in proportion to our improved philosophy.

March 16, 1753.

Wm. Stukeley.

XXXIV. *A farther Account of the Giant's Causeway in the County of Antrim in Ireland, by the Rev. Richard Pocock, LL.D. Archdeacon of Dublin, and F. R. S.*

Read May 24, 1753. **I**N a letter, which I wrote in 1747 to Martin Folkes, Esq; President of the Royal Society, which was read in January, and printed in the *Philosophical Transactions* for that month, I observed, in relation to the Giant's Causeway, that there appeared in the Sea-cliffs three strata of pillars between thirty and forty feet high, with strata of a black rock between them ; that the causeway itself was the lowest of all these, extending in a point into the sea ; and that another is seen towards the top of the cliff.

Last summer I took another view of it ; I went from Bally-Castle, which is about 10 miles to the east of the Causeway. When I came two miles to the west of Bally-Castle, within less than a mile of Balintoy, half a mile to the south of the sea-cliffs, and about a quarter to the south of the road, I saw the
same

A Scheme of the passage of the moons shade, in the total solar eclipse predicted by Thales which happened on Friday May 18th the 603^d year before CHRIST. it put an end to y^e war between y^e Medes and Lydians.

